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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/564,656	01/13/2006	Andreas Johannes Gerrits	NL 030921	9680
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EXAMINER ABEBE, DANIEL DEMELASH				
ART UNIT		PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/564,656

Applicant(s)

GERRITS ET AL.

Examiner

Daniel D. Abebe

Art Unit

2626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,3-10,12-14 and 16-19 is/are rejected.
- 7) ☒ Claim(s) 2,11,15 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- Paper No(s) Mail Date ____.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s) Mail Date ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 18 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The claimed "audio stream" is directed to a signal claim which doesn't fall within at least one category of patent eligible subject matter recited under 35 USC 101.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-9, 14, 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over McAulay et al. (RE36478) and further in view of Oomen et al. (2002/0007268).

As to claim 1, McAulay teaches a method of encoding a signal, comprising the steps of:

Providing a respective set of samples for a plurality of segments;

Analyzing the samples to determine one or more sinusoidal components for the segments the component including frequency and phase value;

Providing sinusoidal tracks for the signal components; and

Determining a predicted phase value (Figs.1-6; Col.2, line 5- Col.3, line 25).

Mcaulay doesn't explicitly teach determining a measured phase value as claimed.

Oomen, however, teaches a method of encoding a signal comprising the steps of:

Receiving signal values comprising a plurality of sequential segments;

Analyzing the signal to determine sinusoidal component including frequency and phase value;

connecting the sinusoidal components across consecutive frames to provide sinusoidal tracks;

determining for each sinusoidal track in the consecutive frames a predicted phase value;

determining a phase jitter/variance value, (measured phase) comprising monotonically changing phase value from the predicted phase value and a measured phase value;

quantizing (modeling parameter) for each sinusoidal tracks as a function of the predicted phase value and the phase jitter; and

generating an encoded signal representing the phase and the frequency information (Par.0007, 0016-0017; Claim 4; Figs.1-2). It would have been obvious to

one of ordinary skill in the art to combine the two arts for the purpose of accounting the phase variance in the encoded parameter thereby improving the signal quality.

As to claim 3, Oomen teaches where the phase value is predicted from the original phase value and frequency value (Par.0007).

As to claim 4, Mcualay teaches where the phase value is dependent on the frequency of the speech component and its derived from original phase value and where a phase range is between $-\pi$; π (Col.4, lines 5-20; Col.11, lines 12-40)

As to claim 5, Oomen teaches determining phase difference between the predicted phase value and the original phase value (Par.0016-17).

As to claim 6, Mcaulay teaches adaptively allocating bits (quantization step) for encoding the phase and the frequency in accordance to the sinusoidal codes (Col.3, lines 4-25).

As to claim 7, Mcualay teaches an indication for the birth and the death of the sinusoidal track (Figs.2-5).

As to claim 9, the signals that are encoded in Mcualay and Oomen are sinusoidal component.

With regard to claim 8, the claimed process of synthesizing the component, obtaining a residual of the synthesized signal and the input signal and modeling the residual, are common steps performed in analysis by synthesis based encoders and therefore are inherent in Mcualay and Oomen sinusoidal encoder systems.

As to claim 14, Oomen and Mcualay in combination teach where the method of encoding a sinusoidal signal that includes unwrapping the phase is performed by an audio encoder.

As to claims 18-19, the claimed audio stream and storage medium carrying the audio stream processed by the steps as addressed above are analogous to the claimed method of 1 and therefore rejected by Oomen in view of Mcualay for the foregoing reasons.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 10, 12-13 and 16-17 are rejected under 35 U.S.C. 102(b) as being anticipated by McAulay et al. (RE36478).

As to claims 10, 12-13 and 16-17 McAulay teaches the corresponding audio decoder (player) for decoding the encoded sinusoidal data that includes unwrapping the phase and synthesizing the sinusoidal encoded signal component in accordance to the adaptive bit rate allocation (quantization accuracy/grid) (Fig.6; claim 51, Col.7, line 62-Col.9, line 60).

Claim Objections

Claim 10 recites the limitation "the respective sinusoidal track" in lines 8-9.

There is insufficient antecedent basis for this limitation in the claim.

Allowable Subject Matter

Claims 2, 11 and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the claims are allowable because the prior arts of record do not teach a first and a second sinusoidal components where the second component has frequency higher than the first component and where the codes are quantized with a quantization accuracy lower or equal to the first component as recited in the claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel D. Abebe whose telephone number is 571-272-7615. The examiner can normally be reached on monday-friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on 571-272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Daniel D Abebe/
Primary Examiner, Art Unit 2626